Derivatives of disazapurine nucleosides, process for their preparation and their use in the sequence analysis of nucleic acids and as antiviral agents.

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Abstract

Novel deazapurine nucleosides of the formula I  in which X denotes nitrogen or a methine group, W denotes nitrogen or the group  R<1>, R<2>, R<3> and R<4> can be the same or different, and denote hydrogen, halogen, a lower alkyl, hydroxyl, mercapto, lower alkylthio, lower alkyloxy, aralkyl, aralkyloxy, aryloxy or an optionally mono- or disubstituted amino group, R<5> denotes hydrogen or a hydroxyl group, R<6> and R<7> each denote hydrogen or one of the two radicals R<6> and R<7> denotes halogen, a cyano, azido or an optionally mono- or disubstituted amino group, where one of the radicals R<6> and R<7> can also represent a hydroxyl group if X denotes a methine group, and R<5> and R<7> together can additionally represent a further bond between C-2' and C-3' and Y represents hydrogen, a monophosphate, diphosphate or triphosphate group, and possible tautomers and salts and nucleic acids which contain one or more compounds of the formula I as building block. The compounds according to the invention exhibit antiviral properties and can further be used in DNA sequencing, where they lead to chain termination and/or prevent band compression.